ARCPOW-06C10/12/15

SWITCHING POWER SUPPLY

Technical description and user manual

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DOCUMENT VERSIONS CONTROL

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ARCPOW-06C10/12/15
SWITCHING POWER SUPPLY
(FOR BATTERY CHARGING)

Switching power supply ARCPOW-06C10/12/15 (hereinafter referred to as SPS) with the power of 30W is provided for charging 12V lead-acid battery, controlling the discharge process as well as protection against overload, incorrect connection and against excessive discharge of battery. SPS has *power good* signal output. The SPS may be integrated into industrial or household appliances.

1. TECHNICAL DATA

Table 1.

item	model	ARCPOW-06C10
1.0.	***Output parameters***	
1.1.	Voltage, V DC:	14±0.2
1.2.	Current, A DC:	≤2,2
1.3.	Power, W:	≤30
1.4.	Pulsation, mV:	<200
1.5.	Battery charge and controll:	YES
1.6.	„POWER GOOD" signal:	NO
1.7.	„ACC.GOOD" signal:	YES
2.0.	***Input parameters***	
2.1.	Voltage, V AC/ V DC:	150-250/200-350
2.2.	Built-in fuse, A AC/V AC:	2/250
2.3.	Frequency, Hz:	0-100
2.4.	Efficiency coeficient, %:	≤75
3.0.	***General parameters***	
3.1.	Insulation resistance, MΩ:	>100
3.2.	Insulation voltage Input/Output, V AC:	≥1500
3.3.	Temperature, ºC:	0 - 50
3.4.	Dimensions, mm:	45,5x120x102
3.5.	Weight, kg:	<0,350
3.6.	Case protection class:	IP20
3.7.	Standards:	EN55032:2012 EN60950-1:2006

Table 2.

item	model	ARCPOW-06C12
1.0.	***Output parameters***	
1.1.	Voltage, V DC:	14±0.2
1.2.	Current, A DC:	≤2,2
1.3.	Power, W:	≤30
1.4.	Pulsation, mV:	<200
1.5.	Battery charge and controll:	YES
1.6.	„POWER GOOD" signal:	NO
1.7.	„ACC.GOOD" signal:	NO
2.0.	***Input parameters***	
2.1.	Voltage, V AC/ V DC:	150-250/200-350
2.2.	Built-in fuse, A AC/V AC:	2/250
2.3.	Frequency, Hz:	0-100
2.4.	Efficiency coeficient, %:	≤75
3.0.	***General parameters***	
3.1.	Insulation resistance, MΩ:	>100
3.2.	Insulation voltage Input/Output, V AC:	≥1500
3.3.	Temperature, ºC:	0 - 50
3.4.	Dimensions, mm:	45,5x120x102
3.5.	Weight, kg:	<0,350
3.6.	Case protection class:	IP20
3.7.	Standards:	EN55032:2012 EN60950-1:2006

Table 3.

item	model	ARCPOW-06C15
1.0.	***Output parameters***	
1.1.	Voltage, V DC:	24±0.5
1.2.	Current, A DC:	≤1,5
1.3.	Power, W:	≤36
1.4.	Pulsation, mV:	<200
1.5.	Battery charge and controll:	YES
1.6.	„POWER GOOD" signal:	NO
1.7.	„ACC.GOOD" signal:	YES
2.0.	***Input parameters***	
2.1.	Voltage, V AC/ V DC:	150-250/200-350
2.2.	Built-in fuse, A AC/V AC:	2/250
2.3.	Frequency, Hz:	0-100
2.4.	Efficiency coeficient, %:	≤75
3.0.	***General parameters***	
3.1.	Insulation resistance, MΩ:	>100
3.2.	Insulation voltage Input/Output, V AC:	≥1500
3.3.	Temperature, ºC:	0 - 50
3.4.	Dimensions, mm:	45,5x120x102
3.5.	Weight, kg:	<0,350
3.6.	Case protection class:	IP20
3.7.	Standards:	EN55032:2012 EN60950-1:2006

2. STRUCTURE AND OPERATION

Switching power supply ARCPOW-06C10/12/15 contains an electromagnetic interference filter, a mains voltage rectifier, a switching regulator, a high frequency impulse transformer, a secondary voltage rectifier, an electronic switch for battery connection, a load relay and a controller of charge/discharge process. The SPS converts rectified mains voltage into impulses of an alterable width with 100 kHz frequency which is converted into secondary direct voltage by the help of transformer and rectifier. Controller measures secondary voltage and current, compares the acquired measurements to voltage reference and control the switching regulator via optron.

The SPS performs battery and load connection control. Charging takes place only if the battery is connected correctly and it is not damaged.

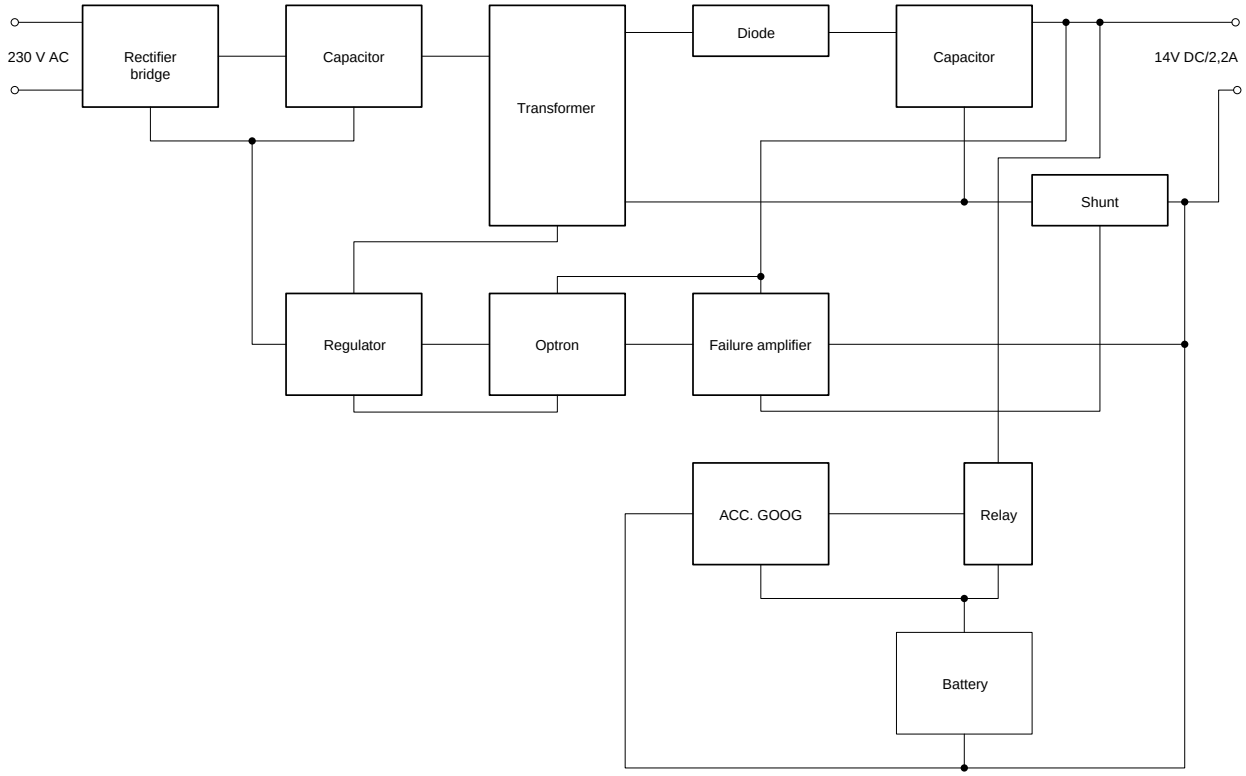

Fig. 1 Structure drawing

3. CONNECTORS AND SIGNALS

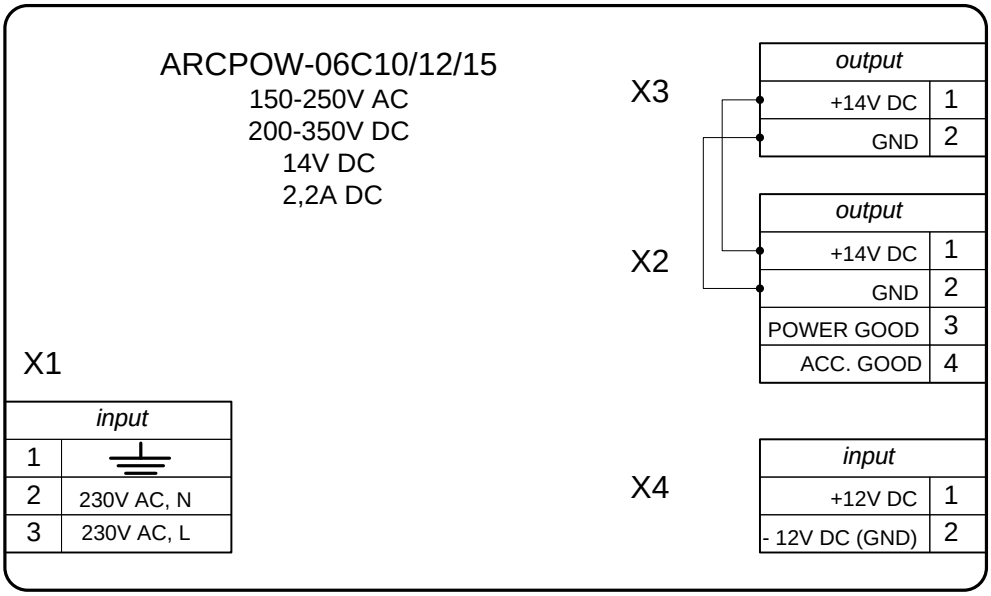

Fig. 2 Connectors

Table 4.

Connector X1		
pin	***designation***	***name***
1	PE	Protection
2	250VAC N	INPUT (for DC voltage polarity is not important)
3	250VAC L	INPUT (for DC voltage polarity is not important)

Table 5.

Connector X2		
pin	***designation***	***name***
1	+14 VDC	OUTPUT, 2,2A DC
2	GND	OUTPUT, 2,2A DC
3	POWER GOOD	„POWER GOOD”
4	ACC. GOOD	Battery „ACC GOOD”; 12V DC, 1mA DC

Table 6.

Connector X3		
pin	***designation***	***name***
1	+14 VDC	OUTPUT, 2,2A DC
2	GND	OUTPUT, 2,2A DC

Table 7.

Connector X4		
pin	***designation***	***name***
1	+12 VDC	INPUT, + battery, 12V; 7,2Ah
2	-12 VDC (GND)	INPUT, - battery, 12V; 7,2Ah

4. ASSEMBLING

SPS is designed to fix on rail DIN 35.

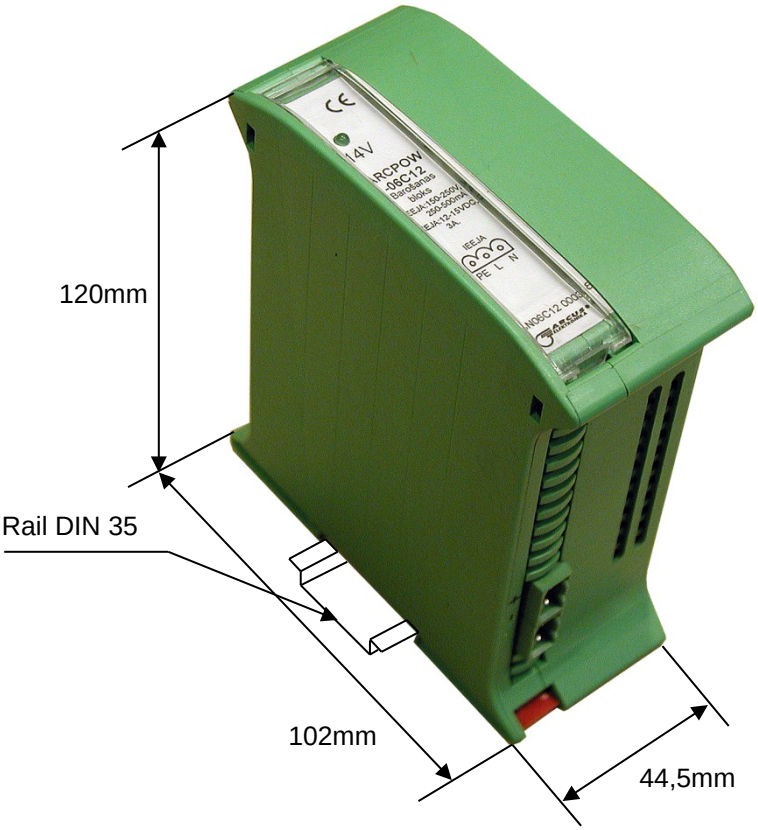

Fig. 3 Dimensions

Leave at least 25mm free space arround the SPS for cooling.

5. GARANTIJAS NOTEIKUMI

Warranty repairs of the SPS can be carried out within 24 months after selling only in case if the defect has occurred due to manufacturer – its work or materials used. This warranty is not valid in case damages or operation failure has occurred due to user's non-observance of terms and conditions given in service instruction, improper storage or transportation.
Warranty and post-warranty repairs shall be performed by manufacturer:

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